

Does laser therapy improve pain or pinch strength for thumb carpometacarpal joint osteoarthritis as an isolated treatment? A randomized controlled trial.

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Objective: Osteoarthritis (OA) is a chronic and prevalent joint disorder that greatly impacts quality of life and has a high economic burden on health resources. Although a number of conservative therapies have proven to be effective for the management of hand OA, only modest treatment effects were reported for most individual interventions.

The aim of the proposed study is to assess the effect of laser therapy on pain and pinch strength in subjects with thumb carpometacarpal osteoarthritis (CMC OA)

Materials and Methods: 43 patients, (mean \pm SD age: 71 \pm 12 years; 57% female) with the diagnosis of CMC joint OA grade 1-2 were randomized to the control (n=21) or experimental (n=23) groups. The primary outcome measures were pain intensity [Visual Analogue Scale (VAS)], and the secondary outcome measure was key pinch strength (dynamometer). The experimental group received laser therapy and control group received a placebo treatment. All outcome measures were collected at baseline, immediately following the intervention at 4 weeks, and at 12 weeks following the intervention.

Results: The experimental group evidenced a 2-point improvement VAS pain score following the treatment. There was a gain of 0.7 kg of pinch strength in the experimental group following the treatment. The effects of both pinch strength gains and pain reduction diminished by the 12 week follow up.

Conclusions: High intensity laser therapy effectively decreases pain intensity when used as a isolated treatment for early CMC OA, but the effect of treatment decreases after 3 months.